

IN THE CLAIMS:

Please cancel claims 1-6 without prejudice to or disclaimer of the subject matter contained therein.

Please amend claim 7 as follows:

LISTING OF CURRENT CLAIMS

Claims 1-6. (Canceled)

Claim 7. (Currently Amended) A power rectifier device, comprising:

A semiconductor substrate having a first conductive layer doped with first-type impurities, an epi layer formed thereon which is extended to a first surface thereof and is lightly doped with said first-type impurities;

5 a cathode metal layer formed on said first conductive layer opposite said first surface;

a first oxide layer formed on said first surface;

10 a pair of trenches formed through said first oxide layer and into a top of said epi-layer and spaced from each other by a first mesa region;

a termination mesa region surrounded surrounding said pair of cell trenches;

15 a second conductive type doped region formed into said epi layer of said first mesa region and said termination mesa region; region, wherein said first mesa region and said termination mesa region are regions located on said first surface having said first oxide layer formed thereon;

a Schottky barrier silicide layer formed on said epi layer in located on bottom and side surfaces of said trenches;

20 a top metal layer acted acting as an anode and formed on said Schottky barrier silicide layer and extended to cover all surfaces of said first mesas region and a portion of said termination mesa region; region.

Claim 8. (Original) The power rectifier device according to Claim 7 and further comprising a nitride layer formed in between said first oxide layer and said top metal layer.

Claim 9. (Original) The power rectifier device according to Claim 8 wherein said first oxide layer has a thickness between about 100 - 1000 nm and said nitride layer has a thickness between about 50 - 300 nm.

Claim 10. (Original) The power rectifier device according to Claim 8 wherein said trenches have a depth of between about 1 to 5 μ m measured from the surface of said epi layer.

Claim 11. (Original) The power rectifier device according to Claim 7 wherein said Schottky barrier silicide layer is formed of metal silicide selected from the group consisting of silicide of Ti, Ni, Cr, Mo, Pt, Zr, and W with silicon.

Claim 12. (Original) The power rectifier device according to Claim 7 wherein said top metal layer is formed of stacked layers of TiNi/Ag or TiW/AI.